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# “Buddy System” of Peer Mentors may Help Control Diabetes

## Abstract

Type 2 diabetes is more prevalent and severe among African Americans. Even within the Veterans Health Administration, which is thought to have minimized barriers in access to care, racial disparities in glucose control and outcomes persist. This Issue Brief summarizes work testing two novel interventions—one-on-one peer mentoring (a “buddy system”) and financial incentives—designed to help patients with consistently poor diabetes control achieve better results. In this case, a telephone buddy makes a big difference.

## Keywords

health behavior & communication, behavioral economics/behavior change

## Disciplines

Health Services Administration | Health Services Research

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# LDI | Issue Brief

Leonard Davis Institute of Health Economics

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## **Judith A. Long, MD**

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## ***“Buddy System” of Peer Mentors May Help Control Diabetes***

Editor’s note: Type 2 diabetes is more prevalent and severe among African Americans. Even within the Veterans Health Administration, which is thought to have minimized barriers in access to care, racial disparities in glucose control and outcomes persist. This Issue Brief summarizes work testing two novel interventions—one-on-one peer mentoring (a “buddy system”) and financial incentives—designed to help patients with consistently poor diabetes control achieve better results. In this case, a telephone buddy makes a big difference.

## ***Burden of diabetes is large among African Americans***

African Americans are disproportionately affected by the Type 2 diabetes epidemic in the U.S. Compared with Whites, African Americans have worse glucose control and higher rates of diabetes complications, such as eye disease, amputations, and kidney disease.

- African Americans are 1.8 times more likely to have diabetes as non-Hispanic whites. About 25% of African Americans between the ages of 65 and 74 have diabetes. African Americans are about 1.5 times more likely to develop diabetic retinopathy and 2.7 times as likely to have a lower limb amputation.
- Controlling blood glucose helps prevent the serious health consequences of diabetes. Glucose control is measured with an HbA1c blood test; in general the target is less than 7%.
- Clinic-based programs have proven effective in improving diabetes management, but they are resource-intensive and tend to lose their effectiveness over time. New strategies are needed, because diabetes control is usually achieved through some combination of diet, exercise, medication adherence, and patient self-management, behaviors that occur outside the clinical context.

## ***Social support and financial incentives hold promise for improving diabetes control***

Long and colleagues developed their interventions based on previous trials and on group discussions with veterans with diabetes.

- Financial incentives have been shown to improve health behaviors in obesity, smoking, and medication adherence. Financial incentives are a powerful motivator of behavior change, although they have not been tested as a means to improving diabetes control.
- Prior diabetes interventions have introduced peer support through group visits, nurse phone calls, or visits from community health workers. However, these require expensive professional or semi-professional staff support. A more informal, flexible

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means of providing one-on-one peer mentoring through volunteer coaches or mentors could potentially provide similar benefits at lower cost.

- Matching patients with poorly controlled diabetes with similar individuals who have gained control of their diabetes draws on existing community assets in creating an intervention that is inherently culturally competent.

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### ***Study tests peer mentoring and financial incentives in African American veterans with diabetes***

Long and colleagues conducted a randomized controlled trial to test the effectiveness of peer mentoring and financial incentives in improving glucose control in African Americans receiving care at the VA.

- The study included 118 African American veterans ages 50-70 with persistently poor glucose control (last two HbA1c levels > 8%). Participants were randomly assigned to one of three groups: usual care, peer mentoring, or financial incentives. All participants had an HbA1c drawn at enrollment and at the end of six months. They were called the day after enrollment with their HbA1c level and informed of the American Diabetes Association and VA recommendations regarding HbA1c targets.
- The usual care group received no other intervention and continued to receive clinical care through VA providers. Those in the peer mentor group continued to receive care through VA providers as well, but were also assigned a peer mentor. The peer mentor was someone who formerly had poor glucose control but now had good control (HbA1c < 7.5%). Participants in the financial incentive group continued to receive care through VA providers and were told that they could earn \$100 at six months if their HbA1c dropped by one point and \$200 if the HbA1c dropped by two points or to 6.5%.
- Peer mentors were matched to a mentee by gender and age. They participated in an hour long one-on-one training informed by motivational interviewing techniques. These techniques involved learning the mentee's story, understanding the mentee's motivations, helping the mentee identify the differences between his or her behaviors and goals, and helping the mentee identify a realistic plan for achieving these goals. Mentors were encouraged to draw on their own experiences.
- Peer mentors were given the phone number of their mentee (with permission) and informed they would receive \$20 per month if the mentee confirmed they talked at least once a week. Once a month, peer mentors were contacted to reinforce the training and to ask about interactions with the mentee.

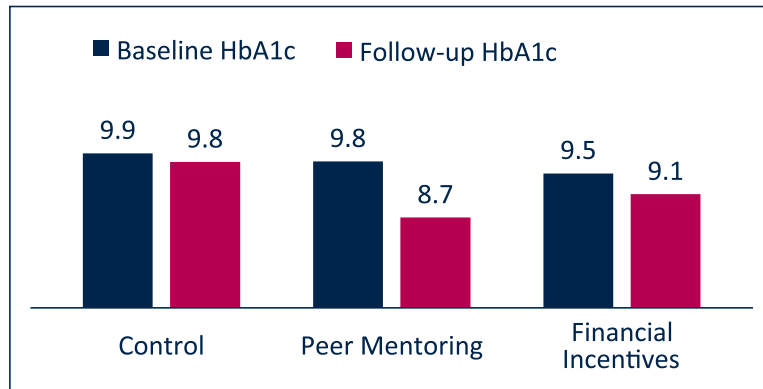
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### ***Peer mentoring outperforms usual care and financial incentives in reducing blood glucose levels***

The study showed that a six month intervention of peer mentors significantly improved glucose control in patients with persistently poor baseline levels.

- The average baseline HbA1c was 9.9% in the usual care group, 9.8% in the peer mentor group, and 9.5% in the financial incentive group. The average baseline HbA1c for peer mentors (based on chart review that made them eligible for the study) was 6.7%.
  - Mentors and mentees talked the most in the first month (an average of four calls) and dropped to an average of two calls by the sixth month. In the first month, 14 mentors (37%) received payment for making four phone calls; by the sixth month, just 6 (16%) received payment.
  - Of the 40 participants in the financial incentive group, five earned the \$100 payment and five earned the \$200 payment.
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- On average, HbA1c dropped from 9.9% to 9.8% in the usual care group, 9.8% to 8.7% in the peer mentor group, and from 9.5% to 9.1% in the financial incentive group. After adjusting for baseline HbA1c and other characteristics, the analysis indicated that the peer mentor group had an average decrease of more than one point, relative to the usual care group. The financial incentive group achieved an average decrease of .45 points, but this decrease could have been due to chance alone.



**Overall, mentors and mentees were positive about their experiences of peer mentorship**

In exit interviews, 24 mentors and 28 mentees provided feedback on what they liked, disliked, and would change about the mentoring program.

- More than 70% of the mentees felt that it was important that the mentor had diabetes, and 5/28 mentioned they appreciated the common understanding and life experiences. Mentees liked best the support provided (14/28), the education provided (9/28) and the ability to commiserate with mentors (6/28). Complaints about the program included too little contact (6/28), difficulty getting in touch (4/28) and lack of compatibility with the mentor (3/28). To improve the program, eight suggested face-to-face meetings, six suggested more calls, and eleven felt no changes were necessary.
- Mentors appreciated helping others (12/24), communicating with mentees (7/24) and the teaching process (7/24). More than 60% thought it was important that they at one time did not have good control. Mentors complained about scheduling calls (5/24), uninterested mentees (5/24) and talking about non-diabetes related issues (4/24). Most mentors thought the program could be improved by face-to-face meetings.

**POLICY IMPLICATIONS**

This peer mentor intervention shows promise as a scalable approach to improving HbA1c levels in high risk patients. Peer mentors may be a low-cost and culturally sensitive way to improve glucose control and reduce racial disparities in diabetic outcomes.

- Peer mentoring was done completely by phone, increasing its broad applicability and scalability. Although both participants and peer mentors indicated that they would have appreciated face-to-face introductions, the intervention was remarkably effective without such an introduction. An intervention of this sort could be especially effective in rural or suburban settings where frequent visits to the health care provider or group support might be relatively difficult.

## POLICY IMPLICATIONS

### Continued

- Perhaps the most obvious attraction of this type of peer mentoring is that it is virtually free, almost certainly enhancing its appeal relative to more costly interventions such as nurse care management, telemedicine and group medical appointments.
- Patients in the study were all African Americans veterans at one institution. Further research should examine the efficacy of a similar intervention on a broader population. Long and colleagues are now conducting a larger study of peer mentoring, financial incentives, and a combination of the two in a predominantly African American population from West Philadelphia. The active intervention will run for six months, with participants followed for an additional six months.
- Prior research has found that peer support is not only beneficial to those receiving it, but also to those giving it, because mentors may be highly motivated to maintain control to set a good example.

*This Issue Brief is based on the following article: J.A. Long, E.C. Jahnle, D.M. Richardson, G. Loewenstein, K.G. Volpp. Peer mentoring and financial incentives to improve glucose control in African American veterans: a randomized, controlled trial. Annals of Internal Medicine, March 20, 2012, vol. 156, pp. 416-424; see also H.E. Shacter, J.A. Shea, E. Akhabue, N. Sabalani, J.A. Long. A qualitative evaluation of racial disparities in glucose control. Ethnicity & Disease, Spring 2009, vol. 19, pp. 121-127.*

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